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Claims

1. Use of a substance or composition comprising one or more proteasome inhibitors for the manufacture of a medicament for the treatment of an individual infected with a virus selected from the group comprising varicella zoster virus, human cytomegalovirus, HHV6 and 7, Epstein-Barr virus and HHV8.
2. Use of a substance according to claim 1, wherein the individual is a human and the virus is human cytomegalovirus.
3. Use of a substance according to claims one or two, wherein the individual has undergone organ transplantation, is receiving immuno-suppressing chemotherapy, is otherwise immuno-suppressed, has a septic disease or has AIDS.
4. Use of a substance according to any of the preceding claims, wherein the proteasome inhibitor is selected from a group comprising substances which are able to block the enzymatic activity of the 26S proteasome complex and/or block enzymatic activity of the 20S proteasome core structure.
5. Use of a substance according to any of the preceding claims, wherein the proteasome inhibitor is selected from a group comprising:
 - a) naturally occurring proteasome inhibitors comprising:
peptide derivatives which have a C-terminal epoxy keton structure, β -lacton-derivatives, aclacinomycin A, lactacystin, clastolactacystein;
 - b) synthetic proteasome inhibitors comprising:
modified peptide aldehydes such as N-carbobenzoxy-L-leucinyl-L-leucinyl-L-leucinal (also referred to as MG132 or zLLL), or the boric acid derivative of MG232, N-carbobenzoxy-Leu-Nva-H (also referred to as MG115), N-acetyl-L-leucinyl-L-leucinyl-L-norleucinal (also referred to as LLnL), N-carbobenzoxy-Ile-Glu(OBut)-Ala-Leu-H (also referred to as PS-1);
 - c) peptides comprising:

an α , β -epoxyketone-structure, vinyl-sulfones such as, carbobenzoxy-L-leucinyl-L-leucinyl-L-leucin-vinyl-sulfon or, 4-hydroxy-5-iodo-3-nitrophenylacetyl-L-leucinyl-L-leucinyl-L-leucin-vinyl-sulfon (NLVS);

- d) Glyoxal- or boric acid residues such as: pyrazyl-
 $\text{CONH(CHPhe)CONH(CHisobutyl)B(OH)}_2$ and dipeptidyl-boric-acid derivatives;
- e) Pinacol-esters such as: benzylloxycarbonyl(Cbz)-Leu-leuboro-Leu-pinacol-ester.

6. Use of a substance according to claim 4 wherein the proteasome inhibitor is selected from a group comprising:

- a) epoxomicin ($\text{C}_{28}\text{H}_{86}\text{N}_4\text{O}_7$) and/or
- b) eponemycin ($\text{C}_{20}\text{H}_{36}\text{N}_2\text{O}_5$).

7. Use of substance according to claim 4, wherein the proteasome inhibitor is selected from a group comprising:

- a) PS-314 as a peptidyl-boric-acid derivative which is N-pyrazinecarbonyl-L-phenylalanin-L-leuzin- boric acid ($\text{C}_{19}\text{H}_{25}\text{BN}_4\text{O}_4$);
- b) PS-519 as a β -lacton- and a lactacystin-derivative which is 1R-[1S, 4R, 5S] -1-(1-Hydroxy-2methylpropyl)-4-propyl-6-oxa-2azabicyclo[3.2.0]heptane-3,7-dione ($\text{C}_{12}\text{H}_{19}\text{NO}_4$);
- c) PS-273 (morpholin-CONH-(CH-naphthyl)-CONH-(CH-isobutyl)-B(OH)₂) and its enantiomere;
- d) PS-293;
- e) PS-296 (8-quinolyl-sulfonyl-CONH-(CH-naphthyl)-CONH(-CH-isobutyl)-B(OH)₂);
- f) PS-303 ($\text{NH}_2(\text{CH-naphthyl})\text{-CONH-(CH-isobutyl)-B(OH)}_2$;
- g) PS-321 as (morpholin-CONH-(CH-naphthyl)-CONH-(CH-phenylalanin)-B(OH)₂);

- h) PS-334 (CH₃-NH-(CH-naphthyl-CONH-(CH-Isobutyl)-B(OH)₂);
- i) PS-325 (2-quinol-CONH-(CH-homo-phenylalanin)-CONH-(CH-isobutyl)- B(OH)₂);
- j) PS-352 (phenylalanin-CH₂-CH₂-CONH-(CH-isobutyl)-B(OH)₂);
- k) PS-383 (pyridyl-CONH-(CH_pF-phenylalanin)-CONH-(CH-isobutyl)-B(OH)₂);
- l) PS-341; and
- m) PS-1 Z-Ile-Glu(O*t*Bu)-Ala-Leu-CHO;
PS-2 [Benzylloxycarbonyl]-Leu-Leu-phenylalaninal or Z-LLF-CHO or Z-Leu-Leu-Phe-CHO PS-1.

8. Use of a substance according to claim 7, wherein the substance is selected from the group comprising:

- a) PS-341 and
- b) PS-1 Z-Ile-Glu(O*t*Bu)-Ala-Leu-CHO;
PS-2 [Benzylloxycarbonyl]-Leu-Leu-phenylalaninal or Z-LLF-CHO or Z-Leu-Leu-Phe-CHO PS-1.
- c) PS-519 as a β -lacton- and a lactacystin-derivative which is 1R-[1S, 4R, 5S]-1-(1-Hydroxy-2methylpropyl)-4-propyl-6-oxa-2azabicyclo[3.2.0]heptane-3,7-dione (C₁₂H₁₉NO₄)